TITLE: Early Diagnosis in Children with Cerebral Palsy: Clinical Evidence and Guidelines

DATE: 25 January 2017

RESEARCH QUESTIONS

1. What is the clinical evidence regarding early diagnosis in children with cerebral palsy?

2. What are the evidence-based guidelines regarding early diagnosis in children with cerebral palsy?

KEY FINDINGS

Four non-randomized studies were identified regarding early diagnosis in children with cerebral palsy.

METHODS

A limited literature search was conducted on key resources including PubMed, Medline, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. Methodological filters were applied to limit retrieval to health technology assessments, systematic reviews, meta-analyses, and guidelines, randomized controlled trials, and non-randomized studies. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2012, and January 10, 2017. Internet links were provided, where available.

The summary of findings was prepared from the abstracts of the relevant information. Please note that data contained in abstracts may not always be an accurate reflection of the data contained within the full article.

SELECTION CRITERIA

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

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Table 1: Selection Criteria

<table>
<thead>
<tr>
<th>Population</th>
<th>Children with cerebral palsy</th>
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<tbody>
<tr>
<td>Intervention</td>
<td>Methods of diagnosis (screening, assessment, etc.)</td>
</tr>
<tr>
<td>Comparator</td>
<td>Other methods of diagnosis</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Clinical evidence, diagnostic accuracy, guidelines</td>
</tr>
<tr>
<td>Study Designs</td>
<td>Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, evidence-based guidelines</td>
</tr>
</tbody>
</table>

RESULTS

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and evidence-based guidelines.

Four non-randomized studies were identified regarding early diagnosis in children with cerebral palsy. No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, or evidence-based guidelines were identified.

Additional references of potential interest are provided in the appendix.

OVERALL SUMMARY OF FINDINGS

The accuracy of methods of early cerebral palsy (CP) diagnosis was assessed in four non-randomized studies.\textsuperscript{1-4} Two studies\textsuperscript{1,2} examined the sensitivity and specificity of the General Movements Assessment (GMA) for determining the diagnostic accuracy of early CP diagnosis. Screening of high risk infants with the GMA was done during the “fidgety period” (12 to 20 weeks of age) and the infants were reassessed at one year of age.\textsuperscript{1} The authors determined that the GMA had a sensitivity of 98% and a specificity of 94% for the detection of CP.\textsuperscript{1} In the second study,\textsuperscript{2} high risk infants were assessed with the GMA at three months of age and were clinically assessed for CP at two years of age. In this study, the sensitivity of the GMA was reported to be 90% and the specificity was 90%.\textsuperscript{2}

One study\textsuperscript{3} used a variety of scales to assess the mental and motor development of high risk infants in the neonatal intensive care unit. The authors reported that a decrease in Developmental Assessment of Young Children scores between six and 12 months was observed in infants who with CP but not in infants determined not to have CP.\textsuperscript{3} The fourth identified study\textsuperscript{4} assessed the predictive value of early assessments for extremely pre-term infants but the authors did not report the results associated with any specific scale within the abstract.

No information was identified regarding the benefits or harms of early diagnosis of CP. No evidence-based guidelines were identified regarding the early diagnosis of CP.
REFERENCES SUMMARIZED

Health Technology Assessments
No literature identified.

Systematic Reviews and Meta-analyses
No literature identified.

Randomized Controlled Trials
No literature identified.

Non-Randomized Studies


Guidelines and Recommendations
No literature identified.

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APPENDIX – FURTHER INFORMATION:

Non-Randomized Studies – Predictors of Early Diagnosis


Review Articles

